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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,441	01/27/2004	Naoki Matsumoto	FUJI 20.904	3619

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KATTEN MUCHIN ROSENMAN LLP  
575 MADISON AVENUE  
NEW YORK, NY 10022-2585

EXAMINER
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BELANI, KISHIN G

ART UNIT	PAPER NUMBER
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2143

MAIL DATE	DELIVERY MODE
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09/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/766,441

Applicant(s)

MATSUMOTO, NAOKI

Examiner

Kishin G. Belani

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6 and 7 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

This action is in response to Applicant's amendment filed on 7/06/2007.

**Independent Claim 1** has been amended by including a single-word additional limitation. **Dependent claims 2-7** are as originally presented. **Dependent claims 4 and 5 objected to in the non-final office action have not been amended** to make them in independent form and therefore make them allowable. **Claims 1-7 are now pending** in the present application. The applicant's amendments to the original claims are shown in ***bold and italics***, and the examiner's response to the amendment is shown in **bold** in this office action. **This Action is made FINAL.**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 6, and 7** are rejected under 35 U.S.C. 102(e) as being anticipated by **Ishizaki et al. (U.S. Patent Publication # 7,085,827 B2).**

Consider **claim 1**, Ishizaki et al. clearly show and disclose a connection management apparatus for connecting a plurality of physically connectable network devices based on connection paths set for individual users (Fig. 1, showing connection paths through VPN block 140 for individual users marked Customer A-D, VPN router block 160, VLAN switch 170, servers 180, 182, 184, and 186, Fiber Channel switch 190, storage volumes 195, along with Service Management System 100; column 7, lines 4-20 that describe these components), comprising:

- a client port connectable to the users via a network (Fig. 1, blocks marked 132 and 134 for customer A; column 6, lines 24-27 which disclose that the customer site and the data center of the service provider are connected via the Internet);
- a server port connectable to a server (Fig. 1, VLAN Switch block 170 showing multiple output ports connected to different servers 180, 182, 184, and 186; column 7, lines 4-10 that disclose the connections between the switch 170 and the servers listed);
- a lookup table including one or more **linked** pairs of tags and destination addresses, each of said **linked** pairs indicating a user and a next destination of a received packet by using a tag attached to the received packet as a search key wherein said attached tag indicates a user and a destination (Fig. 5, VPN Table 500 used as a lookup table with tags VPN ID and VLAN ID and addresses Address 1 and Address 2 that identify the source and destination addresses based on the VPN ID identifying the customer and the packet's destination address; column 6, lines 36-41 that disclose an association between a user and the corresponding VPN ID tag; column 9, lines 4-13 that describe different fields associated with the VPN Table in Fig. 5; **whether or not the tag pairs**

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**are linked, the search will yield the same result; a sequential search or a search for linked pairs is just a search technique to get the source and destination addresses based on the VPN ID); and**

a tag replacement and transmission part replacing a tag of the received packet with a tag detected from the lookup table and transmitting the resulting packet to a destination address detected from the lookup table (Fig. 1, Virtual-Router A block 165; column 6, lines 51-56 which disclose how Virtual Router for customer A adds VLAN tag (corresponding to the VPN ID tag from the VPN Table 500) to the packet before sending it to VLAN switch, so that more than two logically independent networks can be overlaid on the same LAN segment; flowcharts of Fig. 11-13 which show that when reconfiguration of VPN Table or servers or storage volumes takes place, the corresponding tables are updated to redirect the packets to newly configured units; column 10, lines 31-48, and 53-67; column 11, lines 1-4, and lines 10-28 which describe the reconfiguration processes);

wherein a packet received from one of the users and the server is transmitted to one of the plurality of network devices and a packet received from one of the plurality of network devices is transmitted to one of the plurality of network devices, the server and the users (Fig. 1 that shows packets from different customers traversing through VPN 140, VPN router 160, VLAN switch 170, and servers 180, 182, 184, or 186; Fig. 1 also shows data from storage volumes 195 traversing via Fiber Channel switch 190 to servers 180, 182, 184, or 186 via VLAN switch and VPN router to different customers based on the source and destination addresses specified in VPN Table 500).

Consider **claim 6** and **as applied to claim 1 above**, Ishizaki et al. clearly show and disclose a connection management apparatus wherein the lookup table is rewritable through a terminal (Fig. 1 that shows an operator console application 120 interfacing with VPN Management System 210, which in turn is linked to VPN router 160; Fig. 11 that shows the process of reconfiguring the VPN Table depicted in Fig. 5; column 10, lines 31-38 that disclose a command packet created from the operator's console application to reconfigure the VPN routing table).

Consider **claim 7** and **as applied to claim 1 above**, Ishizaki et al. clearly show and disclose a connection management apparatus wherein the tag is a VLAN tag (Fig. 5, VPN Table 500 that clearly show a VLAN ID tag; column 9, lines 4-13 which disclose the structure of VPN Table 500, including the VLAN tag).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 2 and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ishizaki et al. (U.S. Patent Publication # 7,085,827 B2)** in view of **Terrell et al. (U.S. Patent Application Publication # 2003/0189936 A1)**.

Consider **claim 2** and **as applied to claim 1 above**, Ishizaki et al. clearly show and disclose the claimed invention, including showing star topology around VLAN switch 170 in Fig. 1 with VPN router 160 and servers 180, 182, 184, and 186 connected to it in star topology. However, Ishizaki et al. fail to specifically disclose the star topology in the specifications.

In the same field of endeavor, Terrell et al. disclose a connection management apparatus, wherein the plurality of network devices are connected in a star topology (paragraph 0073, lines 1-4 that disclose a star interface for sub-network 170).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to connect a plurality of network devices in a star topology, in order to provide continued operation of the rest of the network, if any device fails, by reconfiguring the routing table to bypass the failing device.

Consider **claim 3** and **as applied to claim 2 above**, Ishizaki et al., as modified by Terrell et al., further show and disclose a connection management apparatus wherein in the lookup table search keys are grouped for each of the users (Fig. 5, VPN Table 500 that clearly show the search key VPN ID grouped by customers, e.g. for customer A, the two sites Aa and Ab are grouped together; column 9, lines 4-13 which disclose the structure of VPN Table 500).

***Allowable Subject Matter***

**Claims 4 and 5** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Consider **claim 4**, the best prior art found during the examination of the present application, **Ishizaki et al. (U.S. Patent Publication # 7,085,827 B2)** in view of **Terrell et al. (US Patent Application Publication # 2003/0189936 A1)**, fails to specifically disclose the limitation of the connection management apparatus, wherein in the lookup table the search keys are further grouped for each of an up-directional connection path of a packet transmitted from a client side to a server side and a down-directional connection path of a packet transmitted from the server side to the client side.



**Claim 5** is also objected to as being allowable by virtue of its dependency on **claim 4**.

***Response to Arguments***

Applicant's arguments filed 07/06/2007 have been fully considered but they are not persuasive.

The examiner respectfully disagrees with applicant's arguments as the applied reference(s) provide more than adequate support and clarification. The examiner's rejection of 04/10/2007 is maintained.

The applicant's arguments about examiner's references not teaching certain elements of the independent **claim 1** are not persuasive.

Consider **claim 1**, Ishizaki et al. reference (US Patent Publication 7,085,827 B2) does teach all the essential elements of claim 1; the argument, that the reference does not specify linked pairs of tags, does not change the outcome of the table search, because the replacement tag for the next destination is determined in either case; also the argument that the reference mentions adding a tag vs. replacing a tag in the claim also makes no difference, since there is only one VLAN ID that can be specified in the packet header (please refer to Fig. 2, TCI field 514 and paragraph 0004 of the previously cited reference US 2006/0034292 A1 by Wakayama et al. for VLAN packet format; also refer to IEEE 802.1Q standards and Fig. 4 and column 8, lines 20-29 in a newly cited reference US Patent Publication 6,639,901 B1 by Katzri et al. filed 1/24/2000; this reference in addition discloses in column 8, lines 45-47 that a bridge (or

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a router) can also add, **modify** and remove tag headers in accordance with the VLAN frame format).

Therefore, **the rejections of the independent claim 1 as well as their dependent claims 2, 3, 6 and 7 are maintained.**

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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**Hand-delivered responses** should be brought to

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Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-1768. The Examiner can normally be reached on Monday-Thursday from 6:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-0800.

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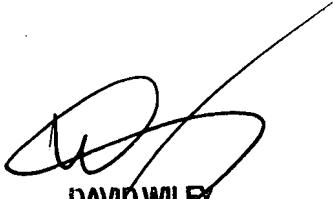
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*Kishin G. Belani*

K.G.B./kgb

August 31, 2007



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